

**Commonwealth of Kentucky  
Environmental and Public Protection Cabinet  
Department for Environmental Protection  
Division for Air Quality  
803 Schenkel Lane  
Frankfort, Kentucky 40601  
(502) 573-3382**

**STATE ORIGIN  
AIR QUALITY PERMIT**

**Permittee Name:** MAYFIELD GRAIN COMPANY, INCORPORATED  
**Mailing Address:** P.O. BOX 950, 622 ALLEN STREET, MAYFIELD,  
KENTUCKY 42066

**is authorized to construct and operate a grain processing facility**

**Source Name:** MAYFIELD GRAIN COMPANY, INCORPORATED  
**Mailing Address:** Same as above  
**Source Location:** 622 ALLEN STREET, MAYFIELD, KENTUCKY

**KYEIS ID #:** 21-083-00012  
**SIC Code:** 5153

**Regional Office:** Paducah Regional Office  
4500 Clarks River Road  
Paducah, KY 42003-0823

**County:** Graves

**Permit Number:** S-01-096 (Revised)  
**Log Number:** 54504  
**Permit Type:** Minor, Construction/Operating

**Issuance Date:** November 28, 2001  
**Revision Date:** February 23, 2004  
**Expiration Date:** November 28, 2011

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**John S. Lyons, Director  
Division for Air Quality**

## **SECTION A - PERMIT AUTHORIZATION**

Pursuant to a duly submitted application, which was determined to be complete on May 29, 2002, the Kentucky Division for Air Quality hereby authorizes the construction and operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify an affected facility without first having submitted a complete application and receiving a permit for the planned activity from the Division, except as provided in this permit or in Regulation 401 KAR 52:040, State-origin permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining other permits, licenses, or approvals that may be required by the Cabinet or other federal, state, or local agency.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS**

- 01      (5)                      Grain Dryer (Chicago Eastern)**  
**(maximum rated capacity – 84 tons/hour)**  
**(control: built-in filter)**

**ADDITIONS:**

- 07      (-)                      Grain Dryer (GSI)**  
**(maximum rated capacity – 84 tons/hour)**  
**(control: built-in filter)**

**APPLICABLE REGULATIONS:**

State Regulation 401 KAR 59:010, New Process Operations, applies to each of the affected facilities listed above (Emission Points 01 and 07).

- 1.      Operating Limitations:**  
N/A

- 2.      Emission Limitations:**

The Division for Air Quality has determined that this facility's potential to emit any air pollutant is less than 100 tons per year. Therefore, although the permit is conditioned to allow emissions in excess of 100 tons per year pursuant to federally enforceable Regulation KAR 59:010, New process operations, emissions equal to or in excess of 100 tons per year of any pollutant are not possible. Accordingly, this permit is being issued as a minor source state-origin permit.

- a. Pursuant to Regulation 401 KAR 59:010, Section 3(2), the emissions of particulate matter for each respective emission point shall not exceed the allowable rate limit as calculated by one of the following equations using the process weight rate (in units of tons/hr).

For process rates up to 60,000 lbs/hr:                       $E = 3.59P^{0.62}$

For process rates in excess of 60,000 lbs/hr:                       $E = 17.31P^{0.16}$

For the equation, E = rate of emission in lbs/hr and P = process weight rate in tons/hr

1. Combined emissions of particulate matter from the Column Dryer [emission point 01 (5)] shall not exceed 35.17 lbs/hr.
  2. Combined emissions of particulate matter from the Column Dryer [emission point 07 (-)] shall not exceed 35.17 lbs/hr.
- b. Pursuant to Regulation 401 KAR 59:010, Section 3(1), opacity of visible emissions from each affected facility (Emission Points 01 and 07) shall not exceed twenty percent (20%).

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**2. Emission Limitations (continued):**

**Compliance Demonstration Method:**

- a. Compliance with the hourly particulate emission limit shall be determined as follows:

Hourly Particulate Emission Rate =  
[Monthly processing rate x Emission Factor as determined from the latest stack test / (Hours of operation per month)]

- b. Compliance with the opacity standard shall be maintained by a daily observation of visible emissions during daylight hours.

**3. Testing Requirements:**

EPA Reference Method 9 shall be used to determine opacity and shall be performed upon the Division's request. Performance test/compliance demonstrations using Method 5 may be required upon the Division's request in order to show compliance with the particulate matter mass emission standard.

**4. Monitoring Requirements:**

See Section C, General Condition F.1.

**5. Recordkeeping Requirements:**

See Section C, General Conditions B.1., B.2., and F.1.

**6. Reporting Requirements:**

See Section C, General Conditions C.1., C.2., C.3., F.2. and G.2.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- 02      (6)                      Grain Scalper**  
**(maximum rated capacity – 84 tons/hour)**  
**(control: cyclone)**

**APPLICABLE REGULATIONS:**

State Regulation 401 KAR 61:020, Existing Process Operations, applies to affected facility listed above (Emission Point 02).

**1.      Operating Limitations:**

N/A

**2.      Emission Limitations:**

The Division for Air Quality has determined that this facility's potential to emit any air pollutant is less than 100 tons per year. Therefore, although the permit is conditioned to allow emissions in excess of 100 tons per year pursuant to federally enforceable Regulation KAR 61:020, Existing process operations, emissions equal to or in excess of 100 tons per year of any pollutant are not possible. Accordingly, this permit is being issued as a minor source state-origin permit.

- a. Pursuant to Regulation 401 KAR 61:020, Section 3(2)(a), the emissions of particulate matter for each respective emission point shall not exceed the allowable rate limit as calculated by one of the following equations using the process weight rate (in units of tons/hr).

For process rates up to 60,000 lbs/hr:                       $E = 4.10P^{0.67}$

For process rates in excess of 60,000 lbs/hr:                       $E = 55.0P^{0.11} - 40$

For the equation, E = rate of emission in lbs/hr and P = process weight rate in tons/hr

1. Combined emissions of particulate matter from the Grain Scalper [emission point 02 (6)] shall not exceed 49.54 lbs/hr.
- b. Pursuant to Regulation 401 KAR 61:020, Section 3(1)(a), opacity of visible emissions from each affected facility (Emission Point 02) shall not exceed forty percent (40%).

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**2. Emission Limitations (continued):**

**Compliance Demonstration Method:**

- a. Compliance with the hourly particulate emission limit shall be determined as follows:

Hourly Particulate Emission Rate =

[Monthly processing rate x Emission Factor as determined from the latest stack test / (Hours of operation per month)]

- b. Compliance with the opacity standard shall be maintained by a daily observation of visible emissions during daylight hours.

**3. Testing Requirements:**

EPA Reference Method 9 shall be used to determine opacity and shall be performed upon the Division's request. Performance test/compliance demonstrations using Method 5 may be required upon the Division's request in order to show compliance with the particulate matter mass emission standard.

**4. Monitoring Requirements:**

See Section C, General Condition F.1.

**5. Recordkeeping Requirements:**

See Section C, General Conditions B.1., B.2., and F.1.

**6. Reporting Requirements:**

See Section C, General Conditions C.1., C.2., C.3., and F.2.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

<b>03</b>	<b>(1)</b>	<b>Truck Receiving</b>
	<b>(2)</b>	<b>Truck Receiving</b>
	<b>(-)</b>	<b>Headhouse</b>
	<b>(-)</b>	<b>Elevator Leg (wet leg)</b>
	<b>(-)</b>	<b>Elevator Leg (receiving)</b>
	<b>(-)</b>	<b>Elevator Leg (receiving)</b>
	<b>(-)</b>	<b>Elevator Leg (dry leg)</b>
	<b>(3)</b>	<b>Truck Loadout</b>
	<b>(7)</b>	<b>Railcar Loadout</b>
	<b>(-)</b>	<b>Storage Bin (225 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (158 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (200 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (1,858 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (1,896 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (275 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (275 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (274 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (290 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (34 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (34 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (34 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (34 ton capacity)</b>
	<b>(-)</b>	<b>Storage Bin (3,920 ton capacity)</b>

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- 03    (-)            Storage Bin (3,920 ton capacity)
- (-)            Storage Bin (588 ton capacity)
- (-)            Conveyor and Transfer Points (drag)
- (-)            Conveyor and Transfer Points (drag)
- (-)            Conveyor and Transfer Points (drag)

**Fertilizer Blending:**

- 04    (-)            Receiving
- (-)            Blender (Adams & Doyle)
- (-)            Blender (Layco)
- (-)            Bulk Overhead Loadout
- 05    (-)            Haul Road and Yard Area (unpaved)
- (-)            Haul Road and Yard Area (paved)
- 06    (-)            Receiving Hopper
- (-)            Receiving Hopper
- (-)            Elevator Leg
- (-)            Conveyor and Transfer Points (drag)
- (-)            Conveyor and Transfer Points (drag)
- (-)            Storage Bin (9,184 ton capacity)
- (-)            Storage Bin (9,184 ton capacity)

**ADDITIONS:**

- 08    (-)            Storage Bin (9,184 ton capacity)
- (-)            Storage Bin (9,184 ton capacity)
- (-)            Elevator Leg (wet leg) (wet process – no emissions)
- (-)            Elevator Leg (dry leg)



**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**APPLICABLE REGULATIONS:**

State Regulation 401 KAR 63:010, Fugitive Emissions, applies to each of the affected facilities listed above.

**1. Operating Limitations:**

N/A

**2. Emission Limitations:**

The materials processed at each affected facility listed above shall be controlled with either wet suppression and/or enclosures so as to comply with the requirements specified in State Regulation 401 KAR 63:010, Fugitive Emissions, Section 3. Standards for fugitive emissions.

**Compliance Demonstration Method:**

See Section C, General Condition F.1.

**3. Testing Requirements:**

See Section C, General Condition G.3.

**4. Monitoring Requirements:**

See Section C, General Condition F.1.

**5. Recordkeeping Requirements:**

See Section C, General Conditions B.1., B.2., and F.1.

**6. Reporting Requirements:**

See Section C, General Conditions C.1., C.2., C.3., F.2., and G.2.

## **SECTION C - GENERAL CONDITIONS**

### **A. Administrative Requirements**

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of Regulation 401 KAR 52:040, Section 3(1)(b) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.
2. This permit shall remain in effect for a fixed term of ten (10) years following the original date of issuance, November 28, 2001. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division. [401 KAR 52:040, Section 15]
3. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit. [Material incorporated by reference by 401 KAR 52:040, Section 1a, 11]
4. Pursuant to materials incorporated by reference by 401 KAR 52:040, the permit contained herein may be revised, revoked, reopened, reissued, or terminated for cause. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance shall not stay any permit condition. [Material incorporated by reference by 401 KAR 52:040, Section 1a, 4 and 5]
5. The permit does not convey property rights or exclusive privileges. [Material incorporated by reference by 401 KAR 52:040, Section 1a, 8]
6. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance. [401 KAR 52:040 Section 11(3)]
7. The permit shall be subject to suspension at any time the permittee fails to pay all fees within 90 days after notification as specified in State Regulation 401 KAR 50:038, Air emissions fee. Source shall submit an annual emissions certification pursuant to 401 KAR 52:040, Section 20. (Note: include only if subject to federal NSPS or NESHAP standards or 25 TPY in an ozone Nonattainment)
8. All permits previously issued to this source, at this location, are hereby null and void.

**SECTION C - GENERAL CONDITIONS (CONTINUED)**

**B. Recordkeeping Requirements**

1. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of at least five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality. [Material incorporated by reference by 401 KAR 52:040, Section 1b, IV. 2) and 401 KAR 52:040 Section 3(1)(f)]
2. The permittee shall perform compliance certification and recordkeeping sufficient to assure compliance with the terms and conditions of the permit. Documents, including reports, shall be certified by a responsible official pursuant to State Regulation 401 KAR 52:040, Section 21.

**C. Reporting Requirements**

1. a. In accordance with the provisions of Regulation 401 KAR 50:055, Section 1 the owner or operator shall notify the Division for Air Quality's Paducah Regional Office concerning startups, shutdowns, or malfunctions as follows:
  - i. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
  - ii. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards notification shall be made as promptly as possible by telephone (or other electronic media) and shall cause written notice upon request.
- b. In accordance with the provisions of material incorporated by reference by 401 KAR 52:040, Section 1b, V.3, the owner or operator shall promptly report deviations from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Reporting Requirement condition 1 a) above), the probable cause of the deviation, and corrective or preventive measures taken; to the Division for Air Quality's Paducah Regional Office.
2. The permittee shall furnish information requested by the cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or compliance with the permit. [Material incorporated by reference by 401 KAR 52:040, Section 1a, 6]
3. Summary reports of any monitoring required by this permit shall be submitted to the Division's Paducah Regional Office at least every six (6) months during the life of this permit. The summary reports are due January 30<sup>th</sup> and July 30<sup>th</sup> of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:040, Section 21. All deviations from permit requirements shall be clearly identified in the reports.

## **SECTION C - GENERAL CONDITIONS (CONTINUED)**

### **D. Inspections**

1. In accordance with the requirements of 401 KAR 52:040, Section 3(1)(f) the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
  - a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
  - b. To access and copy any records required by the permit;
  - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit.
  - d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

### **E. Emergencies/Enforcement Provisions**

1. The permittee shall not use as defense in an enforcement action, the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Material incorporated by reference by 401 KAR 52:040, Section 1a, 3].
2. An emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
  - a. An emergency occurred and the permittee can identify the cause of the emergency;
  - b. The permitted facility was at the time being properly operated;
  - c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
  - d. The permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division within two working days after the time when emission limitations were exceeded due to the emergency and included a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
3. Emergency provisions listed in General Condition E.2 are in addition to any emergency or upset provision contained in an applicable requirement.
4. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof.

**SECTION C - GENERAL CONDITIONS (CONTINUED)****F. Compliance**

1. Periodic testing or instrumental or non-instrumental monitoring, which may consist of record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstration of continuing compliance with the conditions of this permit. For the purpose of demonstration of continuing compliance, the following guidelines shall be followed:
  - a. Pursuant to State Regulation 401 KAR 50:055, General compliance requirements, Section 2(5), all air pollution control equipment and all pollution control measures proposed by the application in response to which this permit is issued shall be in place, properly maintained, and in operation at any time an affected facility for which the equipment and measures are designed is operated, except as provided by State Regulation 401 KAR 50:055, Section 1.
  - b. All the air pollution control systems shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers. A log shall be kept of all routine and non-routine maintenance performed on each control device.  
Daily observations are required during daylight hours of all operations, control equipment and any visible emissions to determine whether conditions appear to be either normal or abnormal. If the operations, controls and/or emissions appear to be abnormal, the permittee must then comply with the requirements of Section C – General Conditions, C.1.b., of this permit.
  - c. A log of the monthly production rates shall be kept available at the facility. Compliance with the emission limits may be demonstrated by computer program (spread sheets), calculations or performance tests as may be specified by the Division.
2. Pursuant to 401 KAR 52:040, Section 19, the permittee shall annually complete and return a Compliance Certification Form (DEP 7007CC) to the Division's Paducah Regional Office in accordance with the following requirements:
  - a. Identification of the term or condition;
  - b. Compliance status of each term or condition of the permit;
  - c. Whether compliance was continuous or intermittent;
  - d. The method used for determining the compliance status for the source, currently and over the reporting period; and
  - e. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality	Division for Air Quality
Paducah Regional Office	Central Files
4500 Clarks River Road	803 Schenkel Lane
Paducah, KY 42003-0823	Frankfort, KY 40601
3. Permit Shield - A permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with all applicable requirements for:
  - a. Applicable requirements included and specifically identified in the permit; or
  - b. Non-applicable requirements expressly identified in this permit.

**SECTION C - GENERAL CONDITIONS (CONTINUED)****G. New Construction Requirements:**

1. Pursuant to 401 KAR 52:040, Section 12(3), unless construction is commenced on or before 18 months after the date of issue of this permit, or if construction is commenced and then stopped for any consecutive period of 18 months or more, or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon a written request, the cabinet may extend these time periods if the source shows good cause.
2. Pursuant to 401 KAR 52:040, Section 12(4)(a) and 401 KAR 59:005, General provisions, Section 3(1), within 30 days following construction commencement, within 15 days following start-up and attainment of maximum production rate, or within 15 days following the issuance date of this permit, whichever is later, the owner and/or operator of the affected facilities specified on this permit shall furnish to the Division's Paducah Regional Office, with a copy to the Division's Frankfort Central Office, the following:
  - a. Date when construction commenced, (See General Condition G.1).
  - b. Start-up date of each of the affected facilities listed on this permit.
  - c. Date when maximum production rate was achieved, (See General Condition G.3.b).
  - d. Summary reports, as referenced in Section C, C.3., of any monitoring required by this permit, for emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation.
  - e. The annual compliance certification, as referenced in Section C, F.2., for an emissions unit that was still under construction or which had not commenced operation at the end of the 12-month period covered by the compliance certification, shall indicate that the unit was under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.
3.
  - a. Pursuant to State Regulation 401 KAR 59:005, General provisions, Section 2(1), this permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within 60 days after achieving the maximum production rate at which the affected facilities will be operated, but not later than 180 days after initial start-up of such facilities, the owner or operator shall demonstrate compliance to a duly authorized representative of the Division.
  - b. Pursuant to State Regulation 401 KAR 59:005, General provisions, Section 3(1)(b), unless notification and justification to the contrary are received by this Division, the date of achieving the maximum production rate at which the affected facilities will be operated shall be deemed to be 30 days after initial start-up.
4. Operation of the affected facilities authorized by this permit shall not commence until compliance with applicable standards specified herein has been demonstrated in accordance with the requirements of 401 KAR 52:040, Section 12(4)(b).

**SECTION D - INSIGNIFICANT ACTIVITIES**

The following listed activities have been determined to be insignificant activities for this source pursuant to Regulation 401 KAR 52:040, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

<u>Description</u>	<u>Generally Applicable Regulation</u>
Natural Gas Burner (6.5 mmBTU/hour) (primary fuel for the column dryer)	401 KAR 59:010
Anhydrous Ammonia Tank (30,000 gallons)	NA
Anhydrous Ammonia Tank (18,000 gallons)	NA
Anhydrous Ammonia Tank (18,000 gallons)	NA
Diesel Tank (2000 gallons)	NA
Gasoline Tank (1000 gallons)	NA
Off Road Diesel Tank (500 gallons)	NA
Liquid Fertilizer Tank	NA
Chemical Storage Areas	NA
Bulk Pesticide Tanks	NA
Dry Fertilizer Storage	NA